

Abstract

According to the present invention, a heating pad controller incorporating a discrete ASIC (Application Specific Integrated Circuit) is provided which varies the duty cycle characteristics of a periodic signal during which power is applied to a heating pad heating element during a portion of the signal ("on" time). An oscillator circuit is used to produce a controlled duty cycle control signal for controlling the power applied to the heating pad by varying the on-time of the duty cycle. User control of the length of the on-time of the duty cycle is provided by way of a user controlled switch, thereby providing for a plurality of controller operating modes (e.g., WARM, LOW, MEDIUM, HIGH, etc.). To configure the duty cycle for each heat setting the heating pad controller utilizes switchable electrical components of varying impedance connected to the ASIC. A heating pad controller according to the present invention can be configured for use with heating pads of varying sizes simply by installing electrical components with the appropriate impedance during manufacture of the circuit board.